CLAIMS

1. A receiver for receiving an analogue signal in a communication system, where said analogue signal includes signal bursts that are varying within a first signal range (201), and where said receiver (300) comprises at least two signal receiver branches (303, 304,305) for receiving said analogue signal, c h a r a c t e r i s e d in that:
said at least two signal receiver branches (303,304,305) are arranged to have dynamic ranges (401,402) that are partly overlapping each other and together cover said first signal range (201) and where said receiver further comprises;

means for evaluating (308) digital samples of said signal bursts (801) from said at least two signal receiver branches (303-305) in accordance with certain criteria's; and

means for selecting (308) all digital samples corresponding to one signal burst (801) at the same time for further processing in said receiver, and where said selected sampled signal burst (801) has been received via one of said at least two signal receiver branches (303,304,305).

2. The receiver as claimed in claim 1, wherein said selection means (308) is arranged to make said selection between sampled signal bursts corresponding to the same received signal burst which has been received in parallel by said at least two signal receiver branches.

3. The receiver as claimed in claim 1 ~~or 2~~, wherein at least one of said at least two signal receiver branches comprises attenuation means (306,311) provided to attain said partly overlapping dynamic ranges (401,402).

4. The receiver as claimed in claim 3, wherein the attenuation in said attenuation means (306,311) is selected in such a way that said overlap between said dynamic ranges (401,402) is at least equal to a defined required minimum signal range (203) for

achieving an adequate signal reception performance in said receiver (300).

5. The receiver as claimed in ~~any one of claims 1-4~~ [claim 1], wherein one (303) of said at least two signal receiver branches is essentially un-attenuated.

6. The receiver as claimed in ~~any one of claims 3-5~~ [claim 3], wherein said attenuation means (306,311) includes a resistor network.

7. The receiver as claimed in ~~any one of claims 3-6~~ [claim 3], wherein said at least one signal receiver branch (304,305) that comprises attenuation means (306,311) also includes amplifying means (605a-b).

8. The receiver as claimed in claim 7, wherein said amplifying means (605a-b) are arranged to amplify digital sampled signal bursts to compensate for the attenuation in said attenuation means (306,311).

9. The receiver as claimed in ~~any one of claims 1-8~~ [claim 1], wherein said at least two signal receiver branches (303,304,305) comprises A/D-conversion means (602a-d), demodulation means (601a-b) and digital filtering means (603a-b, 604a-d) to generate said digital samples.

10. The receiver as claimed in ~~any one of claims 1-9~~ [claim 1], wherein said means for evaluating said digital samples of said signal bursts includes means for storing (308) said digital samples.

11. The receiver as claimed in claim 10, wherein said means for selecting (308) is arranged to use the signal quality of said stored sampled signal bursts (801) to select said sampled signal burst for further processing in said receiver.

12. The receiver as claimed in claim 10, wherein said means for selecting (308) is arranged to compare the signal strength of said stored digital samples with a set of pre-defined threshold

levels (208) to select said sampled signal burst for further processing in said receiver.

a 13. The receiver as claimed in ~~one of claims 1-12~~ claim 1, wherein said means for selecting (308) is arranged to select sampled signal bursts from said at least two signal receiver branches (304-305) by evaluating a pre-determined number of said digital samples of said sampled signal bursts from said at least two signal receiver branches.

a 14. The receiver as claimed in ~~one of claims 1-10~~, wherein said means for selecting (308) is arranged to select sampled signal bursts from a first one of said at least two signal receiver branches (304-305) as long as said sampled signal bursts have a signal strength within a pre-determined signal strength interval or a signal quality within a pre-determined signal quality interval.

a 15. A transceiver, c h a r a c t e r i s e d in that said transceiver comprises at least one receiver as claimed in ~~one of claims 1-14~~ claim 1.

16. A base station, c h a r a c t e r i s e d in that said base station comprises at least one transceiver as claimed in claim 15.

a 17. A radio unit, c h a r a c t e r i s e d in that said radio unit comprises at least one receiver as claimed in ~~one of claims 1-14~~ claim 1.

18 A method in a communication system for receiving an analogue signal in a receiver, where said analogue signal includes signal bursts that are varying within a first signal range (201), and where said receiver (300) comprises at least two signal receiver branches (303,304,305) for receiving said analogue signal,

c h a r a c t e r i s e d in that said method comprises the following steps:

- processing (903-907) said analogue signal with signal bursts to digital sampled signal bursts in said at least two signal receiver branches (303,304,305) where said at least two signal receiver branches (303,304,305) are arranged to have dynamic ranges (401,402) that are partly overlapping each other and together cover said first signal range (201);

- evaluating (908-910) said digital sampled signal bursts from said at least two signal receiver branches (303,304,305) in accordance with certain criteria´s; and

- selecting (910) one of said digital sampled signal bursts that has been processed by one of said at least two signal receiver branches (303,304,305) for further processing in said receiver.

19. The method as claimed in claim 18, wherein said step of selecting (910) performs a selection between sampled signal bursts corresponding to the same received signal burst in said analogue signal, and where said signal burst has been received in parallel by said at least two signal receiver branches.

20. The method as claimed in claim 18 ~~or 19~~, wherein said step of processing said analogue signal to digital sampled signal bursts comprises the following steps:

- attenuating (903) said analogue signal to an attenuated analogue signal in all signal receiver branches (304,305) except one, whereby one un-attenuated and at least one attenuated analogue signal are attained;

- transforming (904-906) said attenuated and un-attenuated analogue signals to filtered digital sampled signal bursts by I/Q-demodulation, A/D-conversion and digital channel filtering;

- amplifying (907) said filtered digital sampled signal bursts corresponding to said attenuated analogue signals to amplified

digital sampled signal bursts to restore the received signal strength.

- storing (908) said amplified digital sampled signal bursts and said filtered digital sampled signal bursts corresponding to said un-attenuated analogue signal in a memory in said receiver as said digital sampled signal bursts.

21. The method as claimed in claim 20, wherein the signal quality of said stored digital sampled signal bursts are used to select said sampled signal burst for further processing in said receiver.

22. The method as claimed in claim 20, wherein the signal strength of said stored digital sampled signal bursts are compared with a set of pre-defined threshold levels (208) to select said sampled signal burst for further processing in said receiver.

23. The method as claimed in any claim 18 ~~one of claims 18-22~~, wherein said step of selecting (910) selects sampled signal bursts from said at least two signal receiver branches (304-305) by evaluating a pre-determined number of digital samples of said sampled signal bursts from said at least two signal receiver branches.

24. The method as claimed in claim 18 ~~any one of claims 18-23~~, wherein each one of the digital samples is an I/Q-pair and that said step of evaluating (908-910) comprises the step of calculating (909) the signal amplitude of said I/Q-pairs before said step of selecting (910).